C6985-6

OCTOBER 1989

ELECTRIC LIGHT & POWER

EL&P

Volume 67, Number 10
A PENNWELL PUBLICATION

VOICE OF THE ELECTRIC UTILITY INDUSTRY

Clean air controversy

EEI: costs could be 30% less

Mark T. Hoske
News Editor

WASHINGTON—Allowing utilities more flexibility in meeting emissions cuts in the Bush Clear Air proposal would save the ratepayers 20-30 percent off the annual price tag estimated at $5-7.1 billion, says EEI.

The acid rain provisions of the bill, HR-3030, would cost ratepayers $5.5 billion a year and an additional $1.6 billion annually after the year 2000, according to an Aug. 30 analysis by Temple, Barker and Sloane Inc. for the Edison Electric Institute.

"The electric utility industry can achieve the same emission reductions without a cap if given the needed flexibility," stated EEI Senior Vice President for Energy and Environment David Swanson.

Emissions caps

In the current form, the bill will restrict the use of coal through its proposed emission caps for each utility unit.

Continued on page 8

Global damage, solutions vary

CHICAGO—Debate on the measurement, assessment and response to global warming, acid rain and ozone is nearly as complex as the myriad of variables on their collective causes and effects on climate and health.

Whatever the effect, most energy leaders worldwide agree that the multi-faceted solution includes nuclear power.

These were the views at the opening sessions on clean air at "Safety of Nuclear Installations of the Next Generation," an Aug. 28-31 workshop sponsored by The International Atomic Energy Agency and Argonne National Laboratory. (See related story, p. 13.)

The speakers acknowledged that science tangles with both politics and international relations when it considers global warming, the effects of acid rain, and the causes of ozone depletion in the upper atmosphere and unhealthy concentrations near ground level.

Global warming has 50-year lead time

One of the difficult aspects of global warming, said Pierre R. Morel, is that 50 to 100 years will pass before the world

Continued on page 8

LATE NEWS

Fort St. Vrain decommissioning was started nine months early, said owner Public Service Co. of Colorado. The decision followed an Aug. 18 shutdown for a problem with a reactor control rod. Other tests showed hairline cracks in steam tubes. The 330-MW, high-temp., gas-cooled reactor hit record production in July.

Flexibility and adaptation to changing technology and economic requirements must be the goal of future energy policy, the 5000 attendees at the 14th World Energy Conference in Montreal were told. See November's *EL&P* for coverage.

Hurricane Hugo's devastation of Southeastern utility systems on Sept. 21, which caused at least 15 deaths and widespread property damage, will be reported in the November issue of *EL&P*.

GE, Westinghouse advance reactor designs with $100M

WASHINGTON—The Department of Energy granted $50 million each to GE Nuclear Energy and Westinghouse Electric Corp. to continue development of advanced, simplified, nuclear reactor designs.

Each company will double that with support from other sources.

The contracts require that each company submit the 600-MW designs for Nuclear Regulatory Commission approval. Westinghouse plans to submit its advanced light-water design in 1994. GE said it would present its boiling-water reactor design in 1995.

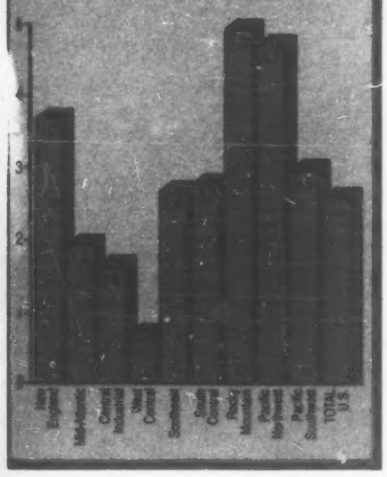
Both companies will receive money from the Electric Power Research Institute, associates and investors in the projects.

The standardized designs, highlighted in *EL&P*'s April '89 issue, will be certified by the NRC in advance to cut down construction times and the high-interest costs linked to delays. The new designs promise construction in five years or less, compared to 10-20 years for current designs.

Continued on page 3

ELECTRICAL OUTPUT

Increases in electrical energy output across the country were down considerably compared to those seen last year, mostly due to the milder summer weather. Yet usage, as reported by the Edison Electric Institute, still was up, since no area of the country showed a decrease or even held at the same level as last year. The graph shows the percentage increases across EEI's 10 geographical reporting areas during the 52-week period ending August 19, 1989, compared to the same period in 1988.



Large public power systems vary from APPA on transmission views

WASHINGTON—A group of 17 large public power systems is taking a separate stand of transmission issues than the American Public Power Association (APPA).

The Large Public Power Council (LPPC), formed by the 17 big municipal utilities two years ago, said in a recent policy paper that "We represent a middle ground between those who would leave questions of access to the marketplace and sole discretion of transmission owners [investor-owned utilities], or those who would impose drastic regulatory mechanisms for mandatory access [APPA]."

Further, LPPC said, "Electric utilities and qualified power producers in the bulk power wholesale market should be permitted to participate in the construction and use of new transmission facilities."

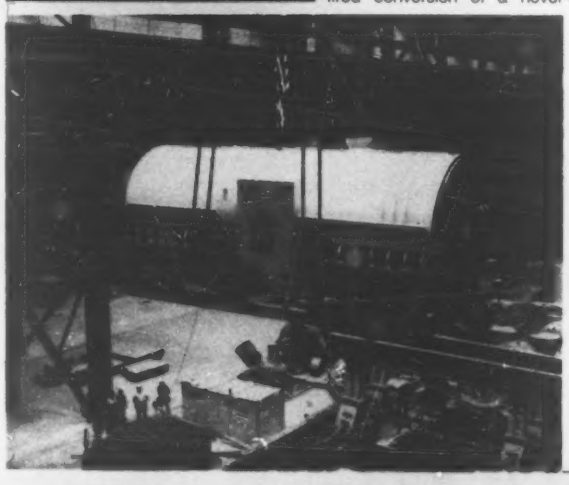
LPPC members now provide access to their transmission systems and would supports increasing access as long as:

- Reliability, obligation to serve and overall interest of existing customers are preserved.
- Owners and power pools retain operational control and regional reliability councils continue assessment.
- Excess transmission capacity will be made available and new capacity should be made available to those willing to share its cost.
- Inadvertent parallel flows must be considered in any access action.
- Pricing should be negotiated by the providers and users, with disputes resolved through a mutually agreed upon binding arbitor.

Although the 17 formed their own association, they still are among the 2,000 APPA members. They serve 40 percent of public-power customers.

Continued on page 3

Zimmer stator drops through roof



The Zimmer Plant's 400-ton generator stator is lowered through the roof Aug. 18 as the final major component. The generator stator measures 32-ft long with a 14-ft diameter. "This stator is the largest 60-cycle, 2-pole stator ever manufactured by Asea Brown Boveri of Switzerland," said John R. Jones, vice president—project management and construction of American Electric Power Service Corp. AEP is managing the conversion. Operation is expected mid-1991. Zimmer, operated by Cincinnati Gas & ElectricCo., is a 1300-MW coal-fired conversion of a never-operated nuclear plant. In addition to CG&E, other owners are AEP's Columbus Southern Power Co. and Dayton Power & Light Co. The modular assembly of the plant was aided by a Lampson Transi-Lift 1200 crane with 1200-ton capacity. "The modular approach has saved money as well as space at the site and shortened construction time," Jones said. Quality was also improved, he added. Major components were built in shops, rather than at the plant site.

News Briefs

JILL MINNER, Assistant Editor

FERC revises standard for price squeeze relief

According to the American Public Power Association, the Federal Energy Regulatory Commission has revised its standard for parties seeking preliminary relief from alleged price squeeze when CWIP (construction work in progress) is included in the wholesale rate base. The commission's revised standard requires a party seeking relief to show that it is likely to be harmed in some way if CWIP is allowed. FERC will then weigh the interests of the party, the utility, and the public in its decision on the request for relief, APPA said.

House passes bill with buy American provision

The House of Representatives has passed the Energy and Water Development Appropriations Bill which contains a "buy American" provision for EHV equipment. According to the National Electrical Manufacturers Association, the provision requires federal power agencies to apply a 30-percent price differential in evaluating bids for EHV power equipment. Countries are exempt from the provision if they provide fair and open competitive opportunities for American manufacturers in their utility markets. NEMA said the provision, which must now pass through the Senate, is designed to open foreign utility markets to U.S. producers.

Missouri co-ops may offer incentive rates

NW Electric Cooperative and its eight distribution cooperatives have hired Burns & McDonnell to redesign their rates for industrial loads, according to the consulting firm. "We need to be able to offer industries attractive rate options within each of our eight service areas if we are to overcome the agricultural losses of recent years," stated NW Electric Manager Curt Funston. Burns & McDonnell said it has recommended that all the cooperatives in Northwest Missouri offer economic development rates and interruptible rates. The cooperatives are looking at other economic incentives to combine with the special rates, and a complete incentive package is expected in January 1990, according to the firm.

CEOs say federal deficit is a "serious" problem

A Conference Board survey of more than 400 U.S. chief executive officers found that 87 percent view the federal budget deficit as a "serious" problem. At least 80 percent called for cutbacks in farm supports, foreign aid and national defense. Over one-third of the CEOs oppose any cuts to Social Security, Medicare and benefits for veterans, the unemployed and children, and about half favor only "small" cuts to these areas. Eighty percent of those surveyed call for welfare cuts, while one-third suggest large reductions. According to the survey, almost 90 percent of the CEOs proposed higher excise taxes on tobacco and alcohol as sources of new revenue.

Court rules on SEC holding company order

A U.S. Court of Appeals ruling involving the Public Utility Holding Company Act of 1935, may lead to further proceedings by the Securities and Exchange Commission, according to WPL Holdings Inc. Wisconsin's Environmental Decade petitioned for a review of an SEC order which allowed WPL Holdings to acquire all of Wisconsin Power and Light Co.'s stock and exempt WPL from all but the acquisition review process of the Act. The Court rejected two of the Environmental Decade's arguments, but said more evidence was required to settle the question of whether or not the reorganization was "tending toward the economical and efficient development of an integrated public utility system" as required by the Act. WPL Holdings said that, while the public utility system issue is being settled, it will continue to operate as it has since the stock was acquired in March 1988.

DOE, Westinghouse agree on reactor issues

The Department of Energy said it has reached an agreement with Westinghouse Electric Corp. on a joint approach to resolving questions and setting a schedule for restarting production reactors at the Savannah River Site in South Carolina. The Westinghouse Savannah River Co. operates the site under contract to DOE. The site's three production reactors, which produce a radioactive form of hydrogen called tritium, have been shut down for over a year, according to DOE.

Oyster Creek restarts

GPU Service Corp. reported that its Oyster Creek station restarted after the system's mobile main output transformer was tied in. One of the plant's two main transformers failed in June, and the second failed in July, according to the company. The new transformer will allow the plant to operate at about ⅔ of its normal maximum capacity. GPU said Jersey Central Power & Light Co., owner of the transformers, is evaluating the problem.

BE's Pilgrim inches up

Boston Edison Co. recently reported that its Pilgrim Nuclear Power Station has reached 75-percent reactor power.

Idaho Power Chairman resigns due to health; Marshall is new head

Idaho Power Co. Executive Vice President Joseph W. Marshall was named to succeed Robert J. O'Connor as chairman and chief executive officer of the company, after O'Connor resigned recently due to health problems. O'Connor, 61, said his recuperation from surgery in June would be an extended one, and that his retirement would assist in his recovery. During his 37-year career at Idaho Power, O'Connor became chief executive officer in 1985 and has served as chairman since 1987. Marshall, 51, joined the utility in 1969 as a distribution engineer.

Arnold picked to head Louisiana Energy

Louisiana Energy Services has chosen W. Howard Arnold as president. Howard most recently served as vice president of engineering and development at a subsidiary of Westinghouse Electric Corp. Louisiana Energy is a joint effort of Duke Power Co., Northern States Power Co., Louisiana Power & Light Co., Fluor Daniel Inc., and Urenco. The company said it plans to begin construction of a nuclear fuel enrichment facility in 1992.

Brown to act as interim president at KPL Gas

KPL Gas Service has announced that William E. Brown will serve as president until a successor to David S. Black is chosen. Black is currently chairman and chief executive officer of the company. Brown was previously executive vice president and chief operating officer at KPL Gas.

Management team for 1990s named at AEP

American Electric Power Service Corp. appointed five new operating company presidents and a new executive vice president-operations. Senior managers who will serve as president and chief operating officer include: Joseph H. Vipperman, Appalachian Power Co.; Thomas R. McCaffrey, Columbus Southern Power Co.; James M. Allison, Wheeling Power Co.; Richard C. Menge, Indiana Michigan Power Co.; and Coulter R. Boyle III, Kentucky Power Co. William J. Lohta was selected as executive vice president-operations of AEP Service Corp.

PP&L exec retires; utility reorganizes

Merlin Hertzog

Merlin F. Hertzog, executive vice president - corporate services at Pennsylvania Power & Light Co., retired September 1, ending a 30-year career with the utility. Hertzog took over his corporate services position and became a PP&L Board member in 1984.

According to PP&L Chairman, President and CEO Robert K. Campbell, a number of organizational changes also went into effect on September 1. William F. Hecht was named senior vice president-system power & engineering, and Robert S. Gombos will serve as vice president-human resource & development.

William Hecht

Robert Gombos

Areas effected by the realignment include: the Public Affairs Department and the Federal Policy function; the Office of General Counsel and the Procurement & Computer Services Department; the Human Resource & Development Department; the System Power & Engineering Department; and the Division Operations and Nuclear departments.

Utilities fined by NRC

The Nuclear Regulatory Commission recently proposed the following fines:

Boston Edison Co.
A $25,000 fine for alleged violations of its own procedures and NRC requirements during a test at the Pilgrim nuclear power plant.

Cleveland Electric Illuminating Co.
A $37,500 fine for failing to correct previously identified electrical safety violations at the Perry nuclear power plant.

Illinois Power Co.
A $75,000 fine for two violations of NRC electrical safety requirements at the Clinton nuclear plant.

Philadelphia Electric Co.
A $75,000 fine for alleged violations of NRC emergency preparedness requirements at Limerick Units 1 and 2.

In This Issue

Industry News

Public power group splits from APPA on transmission issue. 1
Advanced light water reactor designs gain DOE financial support. 1
NECO likes EUA's offer for Newport Electric Corp. 8
Nuclear safety proponents find areas of strong disagreement. 13
Public Service Co. of New Hampshire files its reorganization plans. 49

Generation Technology

Coal byproducts are being used, but only a small portion of them. 16
85-year-old hydro station was hard hit but is being brought back. 19
Cooling water treatment is a complex subject that is introduced here. 24
Effluent environmental compliance guidelines can be met. 28

T&D Technology

Service prepayment systems are gaining acceptance. 33
SoCalEd and manufacturer combine to solve seasonal lighting problem. 33
Automatic dispatch system offered to electric utilities. 33
Laser technology improves accuracy of thermal imaging. 34

Regular Features

Commentary 4
Letters 4
Financial Performances 10
Information/Control Systems 33
Readers' Service 35
New Products 38
New Literature 42
Calendar 46
Regulatory Review 47
Management Methods 48
Labor/Management Concerns 49

ComEd may appeal $195M refund

CHICAGO—Commonwealth Edison Co. has two options for appeal of a second regulatory disallowance of $195 million on its Byron 1 nuclear plant as ordered by state regulators.

If a request to the Illinois Commerce Commission for a rehearing fails, then the utility could appeal to the appellate or state supreme court. A decision had not been made on either of those, said CECo's John Hogan, Sept. 12, although one or both is reported to be likely.

Court dates are scheduled for Oct. 5 and 23 to determine how the disallowed investment would be refunded to customers. The refund amounts to $35 for each average residential customer. In addition, interest payable on the $195 million since 1985 could be 5-9 percent, Hogan said.

If the ICC's decision stands and a refund is ordered, it would cut CECo earnings by $1.40 per share, Hogan indicated, with a write off likely in 1990. EPS in 1988 were $3.01.

This decision "could set a bad precedent that we hope the commission doesn't follow," Hogan said. Three other recently completed CECo nuclear plants could be subjected to similar treatment.

WPL asks FERC for customer wheeling

MADISON, WI—Wisconsin Power & Light Co. asked FERC Sept. 12 to allow wholesale customers to purchase their power from suppliers other than WP&L and wheel those purchases via WP&L existing transmission facilities.

"As competition in the electric utility industry continues to unfold, we think it is important to give our wholesale customers a choice in whom they buy their power from," explained Erroll Davis, WP&L's president and CEO.

Tariff requested

The tariff fee requested is $1.66/kilowatt-month, plus 1 mil/kWh transferred to cover losses, explained Daniel Gomez-Ibanez, WP&L director of wholesale services.

The action was in response to customer requests, although Gomez-Ibanez said he didn't know if any customer would use it anytime soon, if approved.

State regulators recently ordered Wisconsin investor-owned utilities to submit a plan for wheeling, but that has been challenged in court.

It's not that WP&L would allow wheeling, but the utilities that challenged the order believe that the commission overstepped its bounds of power.

Willing to compete

"What we're saying in filing the tariff is not only that we want to listen to customers but that we're willing to compete for wholesale customers anywhere and willing to open our marketplace that our territory represents to similar competition," Gomez-Ibanez said.

Erroll added that "WP&L believes that the key to remaining competitive is to provide the best and lowest cost service in its marketplace instead of depending on artificial regulatory barriers to keep competing suppliers out."

Vault fire causes hotel evacuation

CHICAGO—A failed network protector on one of four transformers in a vault near the Drake Hotel caused more than just a little smoke near the entrance to the hotel on Monday, Aug. 28. The electrical cables overheated releasing smoke through the sidewalk grating into the street near the hotel entrance. The Chicago Fire Department ordered evacuation of the the hotel for about two hours until the source of the smoke could be determined.

"Our biggest problem," says Michael Kelly, Communications Service Department for Commonwealth Edison, "was the overzealousness of local media coverage. One would think that the hotel had burned up. We worked closely with the hotel management to assure their customers that there was no real danger."

The four transformers in the vault have been replaced and were among 726 remaining in the company's $135 million program to replace all 2444 of its transformers containing polychlorinated biphenyl (PCB) insulating fluid. The program, begun in 1984, is expected to be completed in 1991, two years before the U.S Environmental Protection Agency deadline of October 1, 1993. Kelly said only trace amounts of PCB were found on the sidewalk adjacent to the transformer vault.

from page 1

Reactor designs...

If a utility should order one of these new reactors within a year or two, it could be under construction by the late '90s. Both designs use gravity and natural forces for emergency cooling, avoiding more complex safety systems.

DOE requested proposals in January, with responses by May. GE and Westinghouse were the only companies granted money for this particular program, said Dan Butler of DOE.

GE's Simplified BWR

GE's SBWR design effort began in the early 1980's. In 1985, the company teamed with Bechtel North American Power Corp. and the Massachusetts Institute of Technology to perform the conceptual design for, and with major support from EPRI. In 1986, DOE selected the GE team to conduct several test- and design-development programs beyond the EPRI work.

Tests last year confirmed that pumps and operator action are not needed to maintain reactor safety during a severe loss-of-coolant accident, GE said.

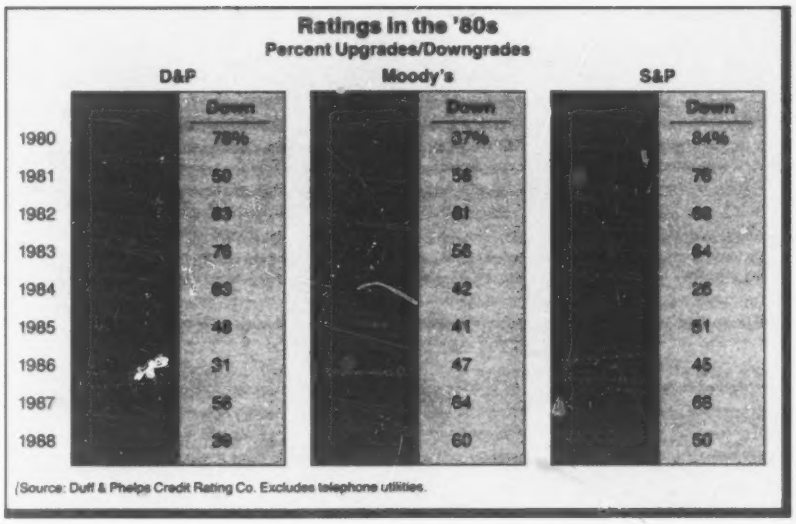
Other partners in the project include Southern Company Services Inc., Burns and Roe Co., Foster Wheeler Energy Applications Inc., University of California at Berkeley, Hitachi and Toshiba of Japan, Ansaldo of Italy, and KEMA/NUCON of The Netherlands.

Westinghouse AP600

Westinghouse began developing the simplified LWR AP600 in 1984. It will consist of factory-built modules that can be assembled at the site.

Companies involved in the Westinghouse project are: Avondale Industries Inc., Bechtel North American Power, Burns and Roe, CBI Services Inc., and MK-Fergeson Co.

"The award represents a major contribution to a joint government-industry program aimed at reviving the nuclear power option," said Richard J. Slember, vice president and general manager of Westinghouse's Energy Systems Business Unit.



(Source: Duff & Phelps Credit Rating Co. Excludes telephone utilities.

Agencies vary widely on rating actions

CHICAGO—Utility management, planning, regulation and financing in the '80s has been challenging enough to provoke profound differences in actions by major ratings agencies.

Although analysts make it their business to keep on top of risky actions, their views vary—the three agencies differed by as much as 20 percent in upgrades and downgrades for 1988.

William A. Abrams, vice chairman, Credit Rating Committee at Duff & Phelps Credit Rating Co., recently listed some of the major risks for electric utilities. They are competition, regulation, nuclear plant operating performance, diversification, mergers, reduced cash, lower earned returns, off-balance-sheet obligations and construction spending resurgence.

New capacity wanted; bids generate interest

BARRINGTON, IL—Virginia Power Co. requested competitive bids for 1100-MW of new generating capacity Aug. 15. Separately, Boston Edison Co. received 48 bids for more than 2800 MW after requesting 200 MW in bids (*EL&P* "Late News," Sept., p.1).

For Virginia Power, that brings the total to about 5000 MW of capacity the company will add to its system between now and 1997.

Evaluating proposals

BE's bids went out in April for the power to be online by 1994. Over the next three months BE officials will evaluate and rank the proposals based on criteria including price, site availability, fuel source and the likelihood of completion. Winning bids will be announced in November.

Virginia Power requested that cogenerators, small power producers, independent power producers and other utilities submit competitive bids for capacity to come on line 1995-7.

This VP soliciation is the nation's second largest for competitively bid generation, after its March 1988 call for 1750 MW, the company said.

Development doubles, jointly

In a related development, Old Dominion Electric Cooperative (ODEC) and Virginia Power agreed to jointly develop a 786-MW coal-fired generating facility as equal partners, at Clover, VA.

The companies asked Virginia regulators' permission on Aug. 15. The two units are due in service by December of 1993 and 1994. Total cost is estimated at $960 million.

ODEC had previously asked regulators to develop a single 393-MW unit.

Iowa power purchases

Terra Comfort Corp., an independent power producer owned by Iowa Southern Inc., agreed to sell 118 MW of power to Iowa Electric Light and Power Co. for 21 years at an undisclosed fixed price for peaking capacity.

In addition, Iowa Southern Utilities Co., also owned by parent Iowa Southern Inc., will sell Iowa Electric up to 118 MW of energy for 16 years at the incremental cost of fuel plus 10 percent, from existing ISU baseload coal-fired plants.

Both contracts start Jan. 1, 1990. Because of transmission limits, the amount of transaction will not exceed 118 MW.

IE Industries Inc. owns Iowa Electric.

North Carolina cogeneration

In other news, General Electric Corp. signed a $10-million contract with Cogentrix Inc. for two 55-MW steam turbines-generators for a cogeneration plant to be built in Rocky Mount, NC.

Duke Engineering & Services Inc. will provide engineering services for the facility. It will produce about 150,000 lbs/hour of steam for nearby industries and supply about 110 MW of electricity for North Carolina Power Co. starting in 1991.

from page 1

Transmission views...

LPPC was formed in mid-1987 to focus on issues specifically key to large public-power systems.

APPA downplays differences

LPPC and APPA transmission views agree on two major points said Alan H. Richardson, APPA assistant executive director, in the Aug. 28 *Public Power Weekly*.

Both groups agree that an impartial arbitor is needed to resolve disputes over transmission access.

"APPA has advocated that the Federal Energy Regulatory Commission should have greater authority to order a utility to provide transmission services on a case-by-case basis, subject to the findings that the order would conserve energy, promote efficient use of facilities and resources, and increase competition or otherwise promote the public interest," Richardson said.

The view on pricing excess capacity is also similar. "APPA and LPPC agree on the importance of cost-based pricing for excess transmission, at least in those situations where competitive transmission markets do not exist," Richardson was quoted as saying.

COMMENTARY

Who should generate electric power in the future?

Is it really in the public interest for competition to be injected into the bulk power supply industry? And if so, shouldn't the decision of just who should be allowed to provide the power be left to competitive marketplace decisions?

Unfortunately, such basic questions as these often seem to get lost in the infighting among various factions with specific interests. Consider the amendment to S.406, the Senate bill dealing with Arctic oil and gas leasing, offered by J. Bennett Johnston (D-LA), chairman of the Senate Energy and Natural Resources Committee. The amendment would change the Public Utilities Holding Company Act to allow formation of exempt wholesale generators to make and sell electricity to electric utilities and bulk power customers.

Even though the proposal has not been slated for hearings, debate has begun in earnest. Johnston's political weight is enough to make both sides believe something is going to happen.

Lining up behind the amendment are the nation's largest electric utilities, who would gain substantially greater flexibility in financing, establishing, and operating subsidiaries to generate power to be sold on the open market. Gas producers, who would profit from anticipated greater use of their fuel also are behind it. There also is support from some competition-oriented politicians.

On the other side are consumer groups, publicly-owned electric utilities and large power users concerned that they would lose leverage and face higher prices, and a number of regulators that fear they would lose jurisdictional control.

It seems to us that the Johnston amendment may provide the medium by which the real question...whether or not competition in the generation of electricity IS in the public interest...can be answered once and for all. This would include consideration of all aspects of power supply: availability, reliability, price and quality. If the answer is yes, then the decision of who should provide the power should be left to the marketplace, where competitive evaluations of those factors can best be made.

If, as we expect, the decision is that competition is in the best public interest, then it would seem only fair that all potential producers, including independent power production companies, financial consortia, utilities, potential co-generators and others should have an equal, but only equal chance in whatever market they choose to enter.

PURPA created some devastating inequities in the name of energy conservation and efficiency. The Johnston amendment would go a long way toward evening out the playing field.

Leader of the pack?

Hats off to Wisconsin Power & Light Co. for becoming the first utility in the country to announce that it is actively seeking permission from the Federal Energy Regulatory Commission to make its transmission system available to any and all wholesale customers that might want to purchase energy from someone else. The company in mid-September announced it had filed a tariff with FERC that would allow all its municipal, co-op and investor-owned utilities open access to its transmission system.

But WP&L President Erroll Davis isn't giving up anything, at least without a fight. In announcing the filing, he declared that the company believes the key to remaining strong and competitive "is to provide the the best, low-cost service in its marketplace, instead of depending on artificial regulatory barriers to keep competing suppliers out."

Wisconsin utilities were recently prodded by their state commission to move in this direction. We salute the company for its actions, and for reacting positively to the winds of change in the industry. Company management obviously believes the company is, and will continue to be competitive. And if it is, that spells good things for everyone—customers, employees and shareholders.

Robert A. Lincicome, Editor-in-Chief

EL&P ELECTRIC LIGHT & POWER

Arthur L. Rice, Publisher
Robert A. Lincicome Editor-in-Chief

PennWell PUBLISHING COMPANY
312-382-2450
Fax: 312-382-2977

Henry Stein, Senior Editor-Generation
H. Wayne Beaty, Senior Editor-Transmission/Distribution
Mark T. Hoske, News Editor
Jill F. Minner, Special Projects Editor
Dianne Wilson, Editorial Assistant-Products/Literature
William Kenworthy, Legal/Regulatory Editor
Ted Pollock, Management Editor
Richard D. Alaniz, Labor/Management Editor

ELECTRIC LIGHT & POWER (USPS 858-860) is published monthly by the PennWell Publishing Company, 1421 S. Sheridan Road, Tulsa, OK 74112.

© Copyright 1989 by PennWell Publishing Company. All rights reserved. Officers of PennWell Publishing Company are Philip C. Lauinger, Jr., Chairman/Chief Executive; Joseph A. Wolking, President; Joseph T. Bessette, Group Vice President; John Maney, Vice President/Finance. Electric Light & Power editorial offices are located at 1250 S. Grove Avenue, Barrington, IL 60010. Phone (312) 382-2450. Distributed to executives and engineers in U.S. electric utilities and consulting engineering firms.

Second class postage paid at Tulsa, OK. Subscription: $38 per year (U.S.), $66 (foreign), $108 (foreign air mail). Single issue price: $4 + postage ($7 + postage foreign). Copies of back issues are available on microfilm from Univ. Microfilm, 300 N. Zeeb Road, Ann Arbor, MI 48103, and on microfiche from Micro-Photo Div. of Bell & Howell, Old Mansfield Road, Wooster, OH 44691. POSTMASTER: Send address changes to ELECTRIC LIGHT & POWER, P.O. Box 2680, Tulsa, OK 74101.

VBPA ABP

Advertiser and advertising agency assume liability for all contents (including text representation and illustrations) of advertisements printed, and also assume responsibility for any claims arising therefrom made against the publisher. It is the advertiser's or agency's responsibility to obtain appropriate releases on any items or individuals pictured in the advertisement.

LETTERS

Should have been...

One of the best-read issues in the electric utility industry trade press during any year is your August issue with its annual listing of the top operating performances of utilities. That was proved to me when a number of associates called to my attention the absence of Toledo Edison's Bay Shore units from their perennial place in your list of top twenty generating units by heat rate.

Upon checking, we found that Bay Shore was omitted from your list because Toledo Edison's parent company, Centerior Energy, missed your deadline for providing information. Had our data reached you in time, Bay Shore would have placed 20th on your list. The 142-MW unit had a heat rate of 9,358 Btu/kWh in 1988.

Our apologies for dropping the deadline ball; Bay Shore is much more efficient at generating electricity than we are at generating statistics.

Stephen G. Lorton
Director, Public Affairs
Centerior Energy
Cleveland, OH

Lightning protection

Close attention should be paid to the findings of Doug Criner of Burns & McDonnell, Mr. Bird and Mr. Karmazyn of W.J. Furse & Co. and Mr. Barker and Mr. O'Neill of Trent Polytechnic, which were reported in "Does lightning protection protect power systems?" (June *EL&P*, p. 38).

It is one of the first articles that I have read in any of the more respectable trade journals that suggests that the market for surge protectors is a big joke that has artfully been played on the 11-million personal computer operators in the U.S. through the deceitful marketing ploy of beneficial, but obscure advertising.

Of course there is no way that an MOV, silicon diode, gas tube or combination of the three can protect integrated circuits from transients caused by lightning. Thus, the plug-in and hard-wired devices (the good ones, like Panamax Supermax and Dynatech S100) are technically known as *surge protectors*, and not *lightning arrestors* (which is a term that applies only to those devices that protect service entrances). *Surge suppressor* components are specifically designed to absorb or divert predetermined voltage levels, such as those that are the result of line switching by the power company. Gas tubes, for instance, will begin operating at high-voltage transient levels, while the MOV will begin operating at low transient-voltage levels. The MOV, however, cannot handle high-voltage transient levels, and low-voltage transients, which will not trigger gas tubes, are still powerful enough to damage integrated circuits.

Moreover, any manufacturer or sales representative that might suggest that his or her surge protector can prevent delicate computer circuits from transients caused by lightning is simply not educated in the fine points of common sense. A lightning stroke carries millions of volts of electricity and is five-times hotter than the surface of the sun. Thus, it just makes sense that the little box under the desk, or wired in the wall, will simply conduct the transient right through the powerline, the computer and even end-user, whatever is the quickest path to ground.

So remember, the only real protection from transients is to unplug your computer when the weatherman says there is a storm coming. Or if you are concerned with downtime, just make sure your warranty is up to date and that you constantly back up your hard disks with floppies.

Dennis M. Zogbi, Research Analyst
World Information Technologies
Northport, NY
(Mr. Zogbi also is co-author of "1989 Analysis of U.S. Electrical and Electronic Surge Protection Markets")

For more on the problems of protection and power quality, see Hank Stein's "Information/Control Systems" column, p.34 of the August issue.

Dead poets and ridicule

I saw the movie "Dead Poets Society" on the weekend before reading Chuck Rhodes' letter to the editor in the July issue of *EL&P* (p.4) the following Monday morning. One particular movie scene replayed in my mind as I read Rhodes' criticism of Ted Pollock for suggesting the judicious use of ridicule as a legitimate management tool for behavior modification in *EL&P* (May, p.60).

Those who've seen the movie may recall one of the opening scenes, where actor Robin Williams' "Captain, oh Captain" teacher-character, Mr. Keating, ridicules timid young student "Anderson" in front of the class when Anderson didn't do the homework assignment—compose an original poem to be read in front of the class. I squirmed and nervously rocked in my cushioned theater recliner as Keating mercilessly badgered and humiliated the quivering Anderson, when, lo, the kid reacts with poetic sensitivity the likes of which he never knew he had within him. The scene ends with Keating's whispered "Don't you ever forget this!" I'll leave it to *EL&P* readers to find out whether or not Anderson learned his lesson.

Ridicule is like dynamite. Ya gotta know if, when and how much of it to use. But this is certain—the lessons we learn through ridicule are as powerful as they are unforgettable.

Peter Kushkowski
Northeast Utilities
Haddam, CT

Peter Kushkowski is a frequent commentor on events and non-events affecting the electric utility industry, EL&P and EL&P's readers.

Increase salaries to keep engineers

WASHINGTON—Salary was the most common reason for seeking a new position, according to a survey in The Last Word, an American Consulting Engineers Council newsletter.

Results

Citing a recent A/E Job Mart's Reader Survey, of 288 respondents, 27 percent said they are not paid enough; 24 percent, lack of advancement opportunity; 17 percent, lack of professional growth; 12 percent, no appreciation for what they do; and 6 percent, inability to get ownership.

Job dissatisfaction

Because of job dissatisfaction, 26 percent of those surveyed are contemplating changing jobs within a year. More than 80 percent said they planned to relocate.